

Paper reference 31760H
Pearson BTEC
Level 3
Nationals Extended Certificate,
Foundation Diploma,
Diploma, Extended Diploma

Total Marks

INFORMATION TECHNOLOGY
Unit 1: INFORMATION TECHNOLOGY
SYSTEMS

**Time: 2 hours plus your additional
time allowance**

**In the boxes below, write your name, centre
number and learner registration number.**

Surname						
Other names						
Centre Number						
Learner Registration Number						

YOU MUST HAVE
Nil.

YOU WILL BE GIVEN

- **A separate Data Book.**

You do not need any other materials.

INSTRUCTIONS

- **Answer ALL questions.**
- **Answer the questions in the spaces provided in this Question Paper or in the Data Book – there may be more space than you need.**

INFORMATION

- **The total mark for this paper is 90.**
- **The marks for EACH question are shown in brackets – use this as a guide as to how much time to spend on each question.**

(continued on the next page)

Turn over

ADVICE

- **Read each question carefully before you start to answer it.**
 - **Try to answer every question.**
 - **Check your answers if you have time at the end.**
-

Question 1 is on the next page

**ANSWER ALL QUESTIONS.
WRITE YOUR ANSWERS IN THE
SPACES PROVIDED.**

1. Hazel is a freelance photographer.

**She is home based and travels to
photo shoots with clients.**

(a) Hazel wants to buy a new laptop.

**Look at the table for
Question 1 (a) in the separate
Data Book.**

**The table shows part of the
specification of two laptops that
Hazel is considering buying.**

(continued on the next page)

Question 1 (a) continued

- (i) Hazel wants to share photographs with clients.**

**Laptop B has a DVD/CD drive.
This would enable Hazel to
store photographs on a
DVD/CD.**

**Identify TWO OTHER storage
devices that Hazel could use
with Laptop B.**

(2 marks)

STORAGE DEVICE 1 _____

Answer space continues on the next page

Turn over

Question 1 (a) (i) continued

STORAGE DEVICE 2 _____

(continued on the next page)

Question 1 (a) continued

- (ii) Explain TWO drawbacks of using DVD's to share photographs with clients.
(4 marks)**

DRAWBACK 1 _____

Answer space continues on the next page

Turn over

Question 1 (a) (ii) continued

DRAWBACK 2 _____

(continued on the next page)

Question 1 continued

(b) Hazel has set up a wireless local area network (LAN) at home, which she shares with members of her family.

**(i) Explain TWO benefits to Hazel and her family of using a LAN.
(4 marks)**

BENEFIT 1 _____

Answer space continues on the next page

Turn over

Question 1 (b) (i) continued

BENEFIT 2 _____

(continued on the next page)

Turn over

Question 1 (b) continued

- (ii) Other members of the family sometimes use Hazel's laptop. Hazel must keep client data stored on her laptop secure.**

Explain TWO methods Hazel could use to prevent family members accessing client data on her laptop.

(4 marks)

METHOD 1 _____

Answer space continues on the next page

Turn over

Question 1 (b) (ii) continued

METHOD 2 _____

(continued on the next page)

Turn over

Question 1 continued

- (c) Hazel will buy her new laptop from a reputable supplier who provides after sales IT support.**

The IT support is provided using remote desktop technology.

Explain TWO reasons why Hazel may be reluctant to allow an IT support technician to access her laptop remotely.

(4 marks)

REASON 1 _____

Answer space continues on the next 2 pages

Turn over

Question 1 (c) continued

REASON 2 _____

(continued on the next page)

Turn over

Question 1 (c) continued

(continued on the next page)

Question 1 continued

- (d) Laptop A has 1 TB HDD and
Laptop B has a 256 GB SSD.**

**Discuss the characteristics of
the TWO internal storage devices.
(6 marks)**

Answer space continues on the next 2 pages

Turn over

Question 1 (d) continued

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Question 1 (d) continued

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(Total for Question 1 = 24 marks)

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2. HJAC is an accountancy firm with a head office and several regional offices.

(a) Staff at the regional offices communicate with head office via video calls over the internet.

The quality of the video calls depends on the bandwidth and latency of the broadband connection.

**(i) Describe the terms ‘bandwidth’ and ‘latency’.
(4 marks)**

Bandwidth

Answer space continues on the next 2 pages

Turn over

Question 2 (a) (i) continued

Latency

(continued on the next page)

Turn over

Question 2 (a) (i) continued

(continued on the next page)

Question 2 (a) continued

- (ii) Explain TWO factors that can affect bandwidth and latency. (4 marks)**

FACTOR 1 _____

Answer space continues on the next page

Turn over

Question 2 (a) (ii) continued

FACTOR 2 _____

(continued on the next page)

Question 2 (a) continued

(iii) It is important to keep sensitive data secure during transmission between head office and regional offices.

HTTPS is one method of securing data during transmission.

Explain TWO ways HTTPS keeps data secure during transmission.

(4 marks)

WAY 1 _____

Answer space continues on the next 2 pages

Turn over

Question 2 (a) (iii) continued

WAY 2

(continued on the next page)

Turn over

Question 2 (a) (iii) continued

(continued on the next page)

Question 2 continued

- (b) HJAC has a Code of Practice, outlining the moral and ethical responsibilities of staff in all areas of business.**

The Code of Practice includes guidance on the acceptable use of IT.

**Discuss the guidance that should be given to staff on the acceptable use of IT.
(6 marks)**

Answer pages continues on the next 3 pages

Turn over

Question 2 (b) continued

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Question 2 (b) continued

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Question 2 (b) continued

(Total for Question 2 = 18 marks)

- 3. Flower Chain supplies plants to stores in the north of England.**

Plants are transported to the stores in vans. The vans are temperature controlled. The temperature is monitored to provide ideal conditions for the plants.

- The temperature in the vans must be kept between 22°C and 28°C.**
- If the temperature is below 22°C a heater is turned on.**
- If the temperature is 28°C or above a fan is turned on.**

- (a) On the blank space provided for Question 3 (a) in the separate Data Book, draw a flow chart to show the process for maintaining the temperature in the van.**
- (6 marks)**

(continued on the next page)

Turn over

Question 3 continued

(b) Each van is equipped with a navigation system.

**(i) Describe how a navigation system works out the location of a van.
(4 marks)**

Answer space continues on the next page

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Question 3 (b) (i) continued

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Turn over

Question 3 (b) continued

- (ii) The navigation system gives the driver the location of each store, based on an address or postcode.**

**Describe OTHER features of a navigation system that will help the driver make deliveries efficiently.
(4 marks)**

Answer space continues on the next page

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Question 3 (b) (ii) continued

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Question 3 continued

- (c) The navigation system has a graphical user interface (GUI).**

Discuss the features of a GUI that make it the most appropriate type of interface for a navigation system.

(6 marks)

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Question 3 (c) continued

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Question 3 (c) continued

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Question 3 continued

- (d) Flower Chain wants to sell plants directly to the public via its website.**

In order to enhance customer satisfaction, the website should be available 24/7.

**Discuss OTHER factors that would enhance customer satisfaction when using the website.
(6 marks)**

Answer space continues on the next 3 pages

Turn over

Question 3 (d) continued

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Question 3 (d) continued

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Question 3 (d) continued

(Total for Question 3 = 26 marks)

4. Individuals and organisations around the world make extensive use of information technology (IT) systems.

(a) There is a growing awareness of environmental issues relating to the use of IT.

Discuss how environmental concerns impact on the use of IT by individuals and organisations.

You should consider:

- hardware**
- energy consumption**
- recycling**
- working practices.**

(10 marks)

Answer space continues on the next 4 pages

Turn over

Question 4 (a) continued

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Question 4 (a) continued

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Question 4 (a) continued

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Question 4 (a) continued

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Question 4 continued

- (b) Legislation relating to the use of IT systems impacts on individuals and organisations.**

Assess the role of current legislation in protecting users and their data from attack and misuse.

You should consider:

- **computer misuse**
- **copyright**
- **protection of data.**

(12 marks)

Answer space continues on the next 5 pages

Turn over

Question 4 (b) continued

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Question 4 (b) continued

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Question 4 (b) continued

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Question 4 (b) continued

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Question 4 (b) continued

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(Total for Question 4 = 22 marks)

TOTAL FOR PAPER = 90 marks

END OF PAPER